

RESOLUTION NO. 2024-143

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, APPROVING AND RATIFYING A LETTER OF COMMITMENT EXECUTED AND DELIVERED BY THE COUNTY ADMINISTRATOR, ON BEHALF OF THE COUNTY, TO THE TAMPA BAY REGIONAL PLANNING COUNCIL IN SUPPORT OF THE U. S. ENVIRONMENTAL PROTECTION AGENCY PHASE II CLIMATE POLLUTION REDUCTION GRANT APPLICATION FOR THE SUNSHINE STATE ENERGY RESILIENCE COALITION PROJECT.

RECITALS

WHEREAS, the U. S. Environmental Protection Agency (“EPA”), through the Climate Pollution Reduction Grant (CPRG) Program, offers funding to local governments to carry out energy efficiency upgrades on new and existing buildings and facilities to promote resilience; and

WHEREAS, St. Johns County, in partnership with City of Jacksonville, conducted a greenhouse gas inventory analyzing all county buildings, facilities, vehicles, employee commute data, and transportation infrastructure under Phase I of the CPRG Program; and

WHEREAS, Tampa Bay Regional Planning Council (TBRPC) is partnering with counties and cities across Florida to request funding for Phase II implementation of the Climate Pollution Control Grant Program for the Sunshine State Energy Resilience Coalition Project; and

WHEREAS, the Jacksonville Metropolitan Statistical Area, led by City of Jacksonville is a part of the coalition seeking grant funding; and

WHEREAS, on March 25, 2024, in support of the grant application, the County was requested to provide TBRPC a Letter of Commitment and a list of County projects that would benefit from energy efficiency upgrades; and

WHEREAS, the grant application deadline was April 1, 2024; and

WHEREAS, since time was of the essence, on March 26, 2024, the County Administrator executed the Letter of Commitment on behalf of the County, subject to subsequent ratification by the Board of County Commissioners; and

WHEREAS, the Grants and Legislative Affairs Department reviewed the grant and determined the requirements, restrictions, and/or obligations associated with the award of grant funding, or the grant itself, would not negatively impact the interests of the County; and

WHEREAS, the Board of County Commissioners determined that providing the Letter of

Commitment and ratifying the County Administrator's execution of the Letter of Commitment serves a public purpose and is in the interest of the County and the public.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of St. Johns County, Florida that:

Section 1. The above Recitals are hereby incorporated into the body of this Resolution, and are adopted as findings of fact.

Section 2. The Board of County Commissioners hereby approves that certain Letter of Commitment and ratifies the County Administrator's execution of the Letter of Commitment on behalf of the Board and further authorizes the County Administrator, or designee, to execute any necessary documents concerning the grant application.

Section 3. To the extent that there are typographical, administrative, or scrivener's errors that do not change the tone, tenor, or context of this Resolution, then this Resolution may be revised without further action by the Board of County Commissioners.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, State of Florida, this 2nd day of April, 2024.

**BOARD OF COUNTY COMMISSIONERS OF
ST. JOHNS COUNTY, FLORIDA**

Rendition Date: APR 03 2024

By: 
Sarah Arnold, Chair

ATTEST: Brandon J. Patty,
Clerk of the Circuit Court and Comptroller

By: 
Deputy Clerk





St. Johns County

2021 Inventory of Government Operations Greenhouse Gas Emissions

**COMPLETED
DECEMBER 2023**

**Produced by St. Johns
County** with Assistance from
ICLEI – Local Governments for
Sustainability USA

Credits and Acknowledgements

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ICLEI-Local Governments for Sustainability USA

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Executive Summary

This report provides estimates of greenhouse gas emissions resulting from activities within the County's government operations; this report does not investigate emissions produced outside of government operations (ie. emissions from private commercial production and manufacturing, privately owned businesses, or other forms of private fuel consumption). The baseline year for emissions reported in this study is the 2021 calendar year and the government sectors that were examined in this inventory were *Buildings and Facilities, Traffic Lights and Signals, Water and Wastewater, County Vehicle Fleet, Transit Fleet (Sunshine Bus), and Employee Commute*. Studying the total emissions produced during certain government operations can help an organization understand and quantify their impact on the surrounding environment and identify areas where efficiencies may be applied.



Key Findings

Figure 1 shows local government operations emissions. The sector accounting for the largest portion of the total emissions is Water and Wastewater (38%). The Buildings and Facilities sector is the next largest contributor accounting for 28% of the total followed closely by the County’s vehicle fleet (23%). The remaining 11% of local government operations emissions are from County employee commute to work, transit fleet, and electricity generation for street lights and traffic signals.

The Inventory Results section of this report provides a more detailed profile of emissions sources within St. Johns County. These data provide a baseline against which the County will be able to compare future performance and demonstrate progress in reducing emissions.

CO2e By Category

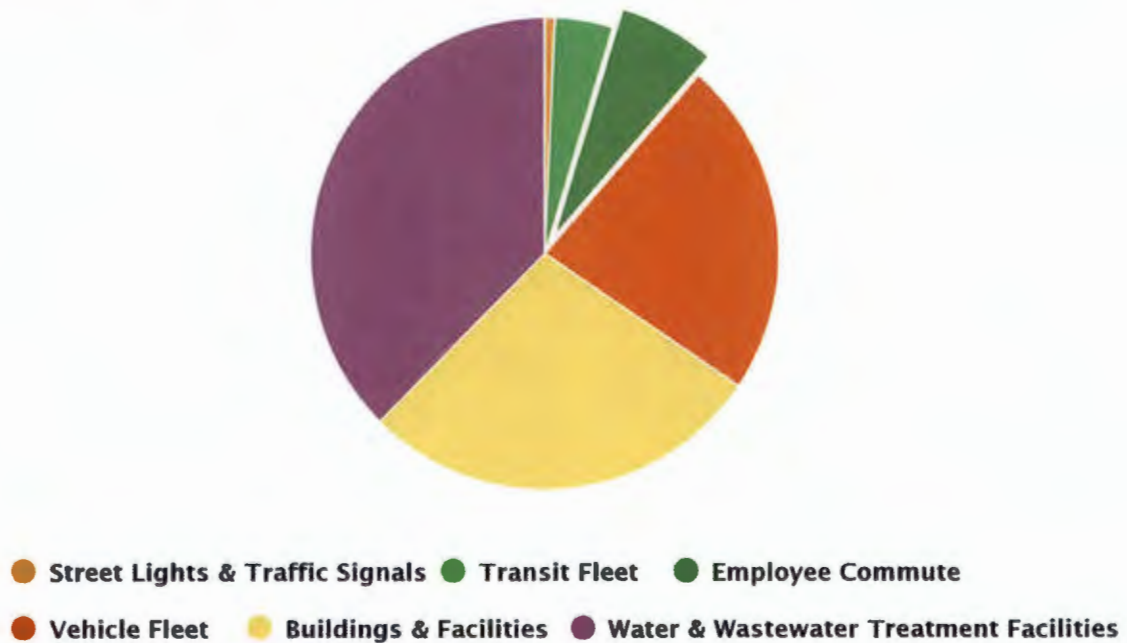


Figure 1

Introduction to Greenhouse Gases (GHG)

Naturally occurring gases dispersed in the atmosphere determine the Earth's climate by trapping solar radiation. This phenomenon is known as the greenhouse effect. Human activities like burning of fossil fuels for transportation, electricity generation and other purposes can introduce large amounts of additional carbon dioxide and other greenhouse gases into the atmosphere. Collectively, these gases intensify the natural greenhouse effect, causing global average surface and lower atmospheric temperatures to rise. Although the natural greenhouse effect is needed to keep the earth at a warm, livable temperature, a human enhanced greenhouse effect with the rapid accumulation of GHG in the atmosphere can lead to too much heat and radiation being trapped. Many regions are already experiencing the consequences of global climate change such as more intense and higher frequency storms, increased flood risk from sea level rise, even changes in crop yield and St. Johns County is no exception.

The 2021 [National Climate Assessment](#), the southeast U.S. is predicted to experience potentially devastating impacts from seasonal changes and hazards occurring at unprecedented magnitudes. Northeast Florida, including St. Johns County is at particular risk for coastal hazards, such as flooding, erosion, and hurricanes that will continue to intensify with sea-level rise. More and more people visit and move to this region each year to enjoy the coastal landscape, but its seaside location also puts it at extreme risk. In addition, climate change will continue to produce warmer seasons and extreme temperatures that may negatively impact sectors within St. Johns County and the greater region, most notably tourism, public health, and agriculture¹.

¹ U.S. Global Change Research Program. 2021. National Climate Assessment – Ch 19: Southeast. Retrieved from <https://nca2021.globalchange.gov/chapter/19/>

Many communities in the United States have started to take responsibility for addressing climate change at the local level. Finding opportunities to reduce fossil fuel use in government operations can have many benefits in addition to reducing greenhouse gas emissions; more efficient use of energy decreases utility and transportation costs for residents and businesses. In addition, when residents save on energy costs, they are more likely to spend at local businesses and add to the local economy. Reducing fossil fuel use also improves air quality; providing increased opportunities for walking and bicycling safely can improve residents' health and quality of life.



Inventory Methodology

Understanding a Greenhouse Gas Emissions Inventory

The first step toward GHG emissions reduction requires identifying baseline emissions levels and sources and activities generating greenhouse gases in the community. This report presents emissions from St. Johns County's daily government operations. It is important to note that this inventory is merely a subset of a community emissions inventory and only analyzes emissions directly related to government operations, as shown in Figure 2. Emissions associated with the private sector and individual fuel consumption are not included in this analysis.

This inventory uses the approach and methods provided by the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Community Protocol) and the Local Government Operations Protocol for Accounting and Reporting Greenhouse Gas Emissions (LGO Protocol), both of which are described below.



Figure 2

Three greenhouse gases are included in this inventory: carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Many of the charts in this report represent emissions in “carbon dioxide equivalent” (CO₂e) values, calculated using the Global Warming Potentials (GWP) for methane and nitrous oxide from the [IPCC 5th Assessment Report]:

Table 1: Global Warming Potential Values (IPCC, 2014)

Greenhouse Gas	Global Warming Potential
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	28
Nitrous Oxide (N ₂ O)	265

Local Government Operations (LGO) Protocol

In 2010, ICLEI, the California Air Resources Board (CARB), and the California Climate Action Registry (CCAR) released Version 1.1 of the LGO Protocol.² The LGO Protocol serves as the national standard for quantifying and reporting greenhouse emissions from local government operations. The purpose of the LGO Protocol is to provide the principles, approach, methodology, and procedures needed to develop a local government operations greenhouse gas emissions inventory.

The following activities are included in the LGO inventory:

- Energy consumption from buildings, facilities, and traffic signals
- Wastewater treatment processes
- On-road transportation from employee commutes
- County vehicle fleet and transit fleet fuel consumption

Quantifying Greenhouse Gas Emissions

Sources and Activities

Communities contribute to greenhouse gas emissions in many ways. Two central categorizations of emissions are used in the community inventory: 1) GHG emissions that are produced by “sources” located within the community boundary, and 2) GHG emissions produced as a consequence of community “activities”.

Source	Activity
Any physical process inside the jurisdictional boundary that releases GHG emissions into the atmosphere	The use of energy, materials, and/or services by members of the community that result in the creation of GHG emissions.

A purely source-based emissions inventory could be summed to estimate total emissions released within the community’s jurisdictional boundary. In contrast, a purely activity-based emissions inventory could provide perspective on the efficiency of the community, even when the associated emissions occur outside the jurisdictional boundary. By reporting on both GHG emissions sources and activities, local governments can develop and promote a deeper understanding of GHG emissions associated with their community operations.

² ICLEI. 2008. Local Government Operations Protocol for Accounting and Reporting Greenhouse Gas Emissions. Retrieved from <http://www.icleiusa.org/programs/climate/ghg-protocol/ghg-protocol>

Base Year

The inventory process requires the selection of a base year with which to compare current emissions. St. Johns County's LGO greenhouse gas emissions inventory utilizes **2021** as its baseline year, for which the necessary data are available.

Quantification Methods

Greenhouse gas emissions can be quantified in two ways:

- Measurement-based methodologies refer to the direct measurement of greenhouse gas emissions (from a monitoring system) emitted from a flue of a power plant, wastewater treatment plant, landfill, or industrial facility.
- Calculation-based methodologies calculate emissions using activity data and emission factors. To calculate emissions accordingly, the basic equation below is used:

$$\text{Activity Data} \times \text{Emission Factor} = \text{Emissions}$$

Most emissions sources in this inventory are quantified using **calculation-based** methodologies. Activity data refer to the relevant measurement of energy use or other greenhouse gas-generating processes such as fuel consumption by fuel type, metered annual electricity consumption, and annual vehicle miles traveled. Please see appendices for a detailed listing of the activity data used in composing this inventory.

Known emission factors are used to convert energy usage or other activity data into associated quantities of emissions. Emissions factors are usually expressed in terms of emissions per unit of activity data (e.g. lbs CO₂/kWh of electricity). For this inventory, calculations were made using ICLEI's ClearPath tool.



Government Operations Emissions Inventory Results

Table 2: Local Government Operations Inventory

Sector	Fuel or source	2021 Usage	Usage unit	2021 Emissions (MTCO ₂ e)
Buildings & Facilities	Electricity	19483823.36	kWh	7390
Buildings & Facilities total				7390
Street Lights & Traffic Signals	Electricity	493169.2329	kWh	187
Street Lights & Traffic Signals total				187
Vehicle Fleet	CNG (on-road)	124543.893	gallons	818
	Gasoline (on-road)	453874.16	gallons	3985
	Diesel (on-road)	128493.72	gallons	1312
Vehicle Fleet total				6115
Transit Fleet	Diesel	90.6	gallons	0.92524
	Gasoline	120486.38	gallons	1060
Transit Fleet total				1061
Employee Commute	Gasoline	3584808	gallons	1705
	Diesel	113778.2	gallons	60.774
	Electric	43260.84	miles	0
Employee Commute Total				1766
Water and Wastewater	Wastewater Grid Electricity	12482040	kWh	4734.6
	Potable Water Grid Energy	12454245	kWh	4724.0
	Wastewater effluent Emissions	172.8	kg N/day	131.30
	Process N ₂ O from wastewater treatment	1.3310	N ₂ O (MT)	352.72
Water and wastewater total				9493
Total government emissions				26,012

Figure 3 shows the distribution of emissions among the six sectors included in the inventory. Water and Wastewater Treatment Facilities are the largest contributor of emissions, followed closely by other Buildings and Facilities and Vehicle Fleet. Employee Commute, Transit Fleet, and Street lights and traffic signals account for the remaining portion of emissions.

CO2e By Category

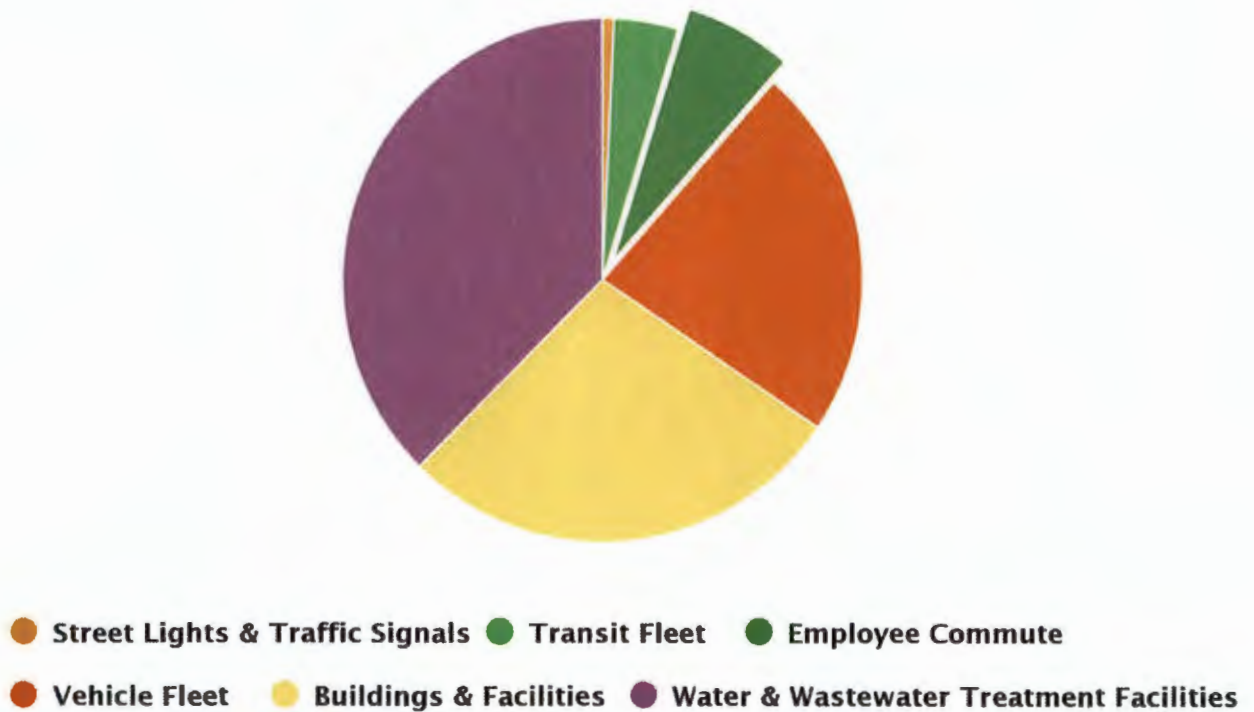


Figure 3

Conclusion

This inventory marks the establishment of a baseline against which the County will be able to compare future performance and demonstrate progress in reducing emissions. The next steps are to forecast emissions, set an emissions-reduction target, and continue to build upon the existing inventory.

In addition, St. Johns County will continue to track key energy use and emissions indicators on an on-going basis. It is generally recommended that communities update their inventories on a regular basis, especially as plans are implemented to ensure measurement and verification of impacts. Regular inventories also allow for “rolling averages” to provide insight into sustained changes and can help reduce the change of an anomalous year being incorrectly interpreted. This inventory provides insight into the initial emissions sources that will be particularly important to focus on in the future and provides a starting point for emissions-reduction target planning. Through these efforts and others, St. Johns County can achieve environmental, economic, and social benefits beyond reducing emissions.



Appendix: Methodology Details

Energy

The following tables shows each activity, related data sources, and notes on data gaps.

Table 3: Energy Data Sources

Activity	Data Source	Data Gaps/Assumptions
Local Government Operations		
Electricity consumption (used for buildings & facilities and traffic lights & street signals)	Florida Power and Light	Data scaled to 2021 using 2022 usage and population data.

Table 4: Emissions Factors for Electricity Consumption

Year	CO ₂ (MT/MMBtu)	CH ₄ (MT/MMBtu)	N ₂ O (MT/MMBtu)
2021	0.11069	7.0438 x10 ⁻⁶	9.3032 x10 ⁻⁷

Transportation

Table 5: Transportation Data Sources

Activity	Data Source	Data Gaps/Assumptions
Local Government Operations		
Government vehicle fleet & transit fleet	St. Johns County Fleet Maintenance	Odometer readings are reported by the driver during refuel and may be erroneously entered on occasion.
Employee commute	October 2023 Employee Commute Survey	Survey response represents only about 1/3 of the total workforce. Increased participation in the survey likely would have resulted in higher emissions.

Water and Wastewater

Table 6: Water and Wastewater Data Sources

Activity	Data Source	Data Gaps/Assumptions
Local Government Operations		
Process N2O from Wastewater Treatment	St. Johns County Utility	N/A
Wastewater Effluent Emissions		
Water and Wastewater Energy Consumption	St. Johns County Utility	N/A

Inventory Calculations

The 2021 inventory was calculated following the US Community Protocol and ICLEI’s ClearPath software. As discussed in Inventory Methodology, the [IPCC 5th Assessment] was used for global warming potential (GWP) values to convert methane and nitrous oxide to CO2 equivalent units. ClearPath’s inventory calculators allow for input of the sector activity (i.e. kWh or VMT) and emission factor to calculate the final CO2e emissions.



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March 26, 2024

Mayor Woody Brown, Chair
Tampa Bay Regional Planning Council
4000 Gateway Centre Blvd., Suite 100
Pinellas Park, Florida 33782

RE: St. Johns County Letter of Commitment – Sunshine State Energy Resilience Coalition Project.

Dear Mayor Brown,

I am writing to express my county's commitment for the Tampa Bay Regional Planning Council's (TBRPC) application to the United States Environmental Protection Agency (U.S. EPA) Phase II Implementation of the Climate Pollution Reduction Grant (CPRG) Program. The TBRPC's proposed "Sunshine State Energy Resilience Coalition" project reduces greenhouse gas emissions while creating more resilient communities for those most affected by climate change.

St. Johns County is dedicated to creating and maintaining safe and sustainable buildings and facilities for its citizens. St. Johns County commits to the "Sunshine State Energy Resilience Coalition" (SSERC) project because it creates high performing buildings for climate and community resilience. St. Johns County is ready to assist with the planning and implementation of the SSERC. If sub-awarded funding, we will work with the TBRPC, COJ and other SSERC members, and community partners to ensure the success of the project. Please give the TBRPC's application the highest consideration.

Sincerely,

Joy Andrews
County Administrator
St. Johns County, Florida